

BEFORE
THE PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA

IN RE: South Carolina Energy Freedom)
Act (House Bill 3659))
Proceeding Related to S.C.)
Code Ann. Section 58-37-40) **DOCKET NO. 2019-226-E**
and Integrated Resource Plans)
for Dominion Energy South)
Carolina, Inc.)

**S.C. Coastal Conservation League & Southern Alliance for Clean Energy's
Third Set of Interrogatories and Request for Production of Documents to Dominion
Energy South Carolina, Inc.**

Pursuant to S.C. Code Ann. Regs. 103-833 and the South Carolina Rules of Civil Procedure, the South Carolina Coastal Conservation League, the Southern Alliance for Clean Energy, and Upstate Forever, by and through its undersigned counsel, hereby request that Dominion Energy South Carolina, Inc. ("DESC") respond to this Third Set of Interrogatories and Request for Production of Documents separately and fully, under oath, and in writing within twenty (20) days of the date of service hereof to the offices of Katherine Lee, Southern Environmental Law Center, 525 East Bay Street, Suite 200, Charleston, SC 29403 and electronically to klee@selcsc.org and eselden@selcsc.org.

INSTRUCTIONS

IT IS HEREIN REQUESTED:

1. That all information shall be provided to the undersigned in the format as requested.
2. That all responses to the below Third Set of Interrogatories and Request for Production of Documents shall be labeled using the same numbers as used herein.

3. That any inquiries or communication relating to questions concerning clarifications of the data requested below be directed to the undersigned.

4. That each Interrogatory and Request for Production of Documents be reproduced at the beginning of the response thereto.

5. That, in addition to the signature and verification at the close of DESC's responses, DESC's witness(es) responsible for the information contained in each response also be indicated.

6. That DESC provide the undersigned with responses to this Set of Interrogatories and Request for Production of Documents as soon as the responses are available to be produced but not later than twenty (20) days from the date of service hereof.

7. If the response to any Interrogatory or Request for Production of Documents is that the information requested is not currently available, state when the information requested will become available.

8. These Interrogatories and Requests for Production of Documents shall be deemed continuing so as to require DESC to supplement or amend its responses as any additional information becomes available up to and through the date of hearing.

9. If a privilege not to produce a document is claimed, identify each document as to which the privilege is claimed, the nature of the privilege, and the legal and factual basis for each such claim.

10. If a refusal to answer a Request for Production of Documents is based on the grounds that same would be unduly burdensome, identify the number and nature of

documents needed to be searched, the location of the documents, and the number of person hours and costs required to conduct the search.

11. Answer each Interrogatory and Request for Production of Documents on the basis of the entire knowledge of DESC, including information in the possession of DESC, its officers, directors, consultants, representatives, agents, experts, and attorneys, if any.

12. If any Interrogatory or Request for Production of Documents cannot be answered in full, answer to the extent possible and specify the reasons for DESC's inability to answer.

DEFINITIONS

1. The terms "DESC," "the Company," "You," and "Your" where used in these Interrogatories and Requests for Production of Documents refers to Dominion Energy South Carolina, Inc., together with its employees, agents, consultants, experts, subsidiaries, affiliates, and other operational or functional units and all officers, directors, owners, members, employees, agents and representatives of these entities. It also includes all other persons acting on behalf of Dominion Energy South Carolina, Inc..

2. "Document" and "documents" shall mean all written, recorded or graphic matters whatsoever and all non-identical copies thereof, including but not limited to papers, work papers, books, records, letters, photographs, correspondence, communications, electronic mail, telegrams, cables, telex messages, evidences of payment, checks, memoranda, notes, notations, work papers, transcripts, minutes, reports, recordings of telephone or other conversations, statements, summaries, opinions, studies, analyses, evaluations, contracts, agreements, jotting, agendas, bulletins, notices,

announcements, advertisements, guidelines, charts, manuals, brochures, publications, schedules, price lists, subscription lists, customer lists, journals, statistical reports, desk calendars, appointment books, diaries, lists, tabulations, newsletters, drafts, proofs, galleys, or other prepublication forms of materials, telephone lists or indexes, rolodexes, computer printouts, data processing program libraries, data processing input and outputs, microfilm, microfiches, CD ROMs, books of account, records or invoices reflecting business operations, all records kept by electronic, photographic or mechanical means, any notes or drafts relating to any of the foregoing, and any other documents as defined in Rule 34 of the South Carolina Rules of Procedure of any kind in your possession, custody or control or to which you have access or know to exist.

3. “Relate,” “relating,” “relating to,” and “related to” when used in these Interrogatories shall mean recording, summarizing, embodying, constituting, reflecting, digesting, referring to, commenting upon, describing, reporting, listing, analyzing, studying, or otherwise discussing in any way a subject matter identified in the interrogatory, and is defined so as to reach all matters within the scope of discovery pursuant to the Commission’s Regulations and the South Carolina Rules of Civil Procedure, including all information which, though inadmissible at trial, is reasonably calculated to lead to the discovery of admissible evidence.

4. “Identify” or “identity” used with reference to an individual means to state his or her full name, present or last known address, present or last known position and business affiliation, and employer, title, and position at the time in question. If the person was an officer, director, trustee, commissioner, or employee of DESC, also state the job title and areas of responsibility.

5. “Identify” or “identity” used with reference to a writing means to state the date, author, type of document (*e.g.*, letter, memorandum, telegram, chart, note, application, etc.) or other means of identification, and its present location or custodian. If any such document is no longer in DESC’s possession or subject to its control, state what disposition was made of it.

6. “Address” means home address, mailing address, school address, and business address.

7. Please construe “and” as well as “or” either disjunctively or conjunctively as necessary to bring within the scope of these Interrogatories any information which might otherwise be construed outside their scope.

INTERROGATORIES AND REQUESTS FOR PRODUCTION OF DOCUMENTS

Electric Space Heating Forecast

3-1: Please provide in Excel format assumptions and modeling for the forecast residential electric heating growth by equipment type including assumed base line equipment efficiencies, distribution system efficiencies and heating loads.

Energy and Demand Savings Estimates

3-2: Please provide the “EE MW Savings - Summer Peak” and “EE MW Savings - Winter Peak” savings tables referenced on page 80 of the Charles River Associates, Independent Review of the DESC 2020 IRP.

3-3: Please identify by measure and applicable program, the 30% of measures that passed Total Resource Cost test screening conducted by ICF in the DESC 2020-

2029 Achievable DSM Potential & PY10-14 Program Plan (2019 MPS) but that were not included in the DSM portfolios evaluated. Please provide the screening assumption and result files for these measures including the estimated energy and summer and winter peak savings estimates for each measure.

- 3-4: The summer and winter peak savings estimates for the portfolio as represented on Figures 27 and 28 in the Charles River Associates Independent Review of the 2020 DESC IRP (“CRA Review”) indicate cumulative summer peak savings of 450 MW by 2029 and winter peak savings of 430 MW by 2029. Do these savings estimates reflect any prioritization by DESC of program efforts to capture winter peak savings over summer peak savings? If they do please explain, if they do not please explain why they do not.
- 3-5: Figures 26-28 in the CRA review indicate that cumulative peak and energy savings plateau after 10 years. Please provide DESC’s supporting analysis or rationale for the assumption that after 2029 all savings will just replace retiring prior measure savings and that there will be no incremental cost-effective opportunities to upgrade from standard to advanced technologies.

DSM Cost Modeling

- 3-6: Please refer to the workbook “DSM Costs (012720)” provided in DESC’s response to ORS 1-30 subpart D.
- a. In the worksheet titled “Scenarios,” the rows containing the DSM Costs for the low, medium, and high case are hardcoded. Please provide DSM

costs for the low, medium, and high case with all formulas and links intact.

- 3-7: Please refer to workbook “DESC8M_0CO_BG,” worksheet “Summary,” row 18 “DSM costs,” provided in DESC’s response to Sierra Club 2-2.
- a. Please provide in spreadsheet format, with all formulas and links intact, the development of the DSM costs for 2029 to 2079 found in row 18.
 - b. Please confirm if DESC extrapolated the DSM costs. If DESC did not extrapolate the DSM costs, please explain how DESC developed the DSM costs from 2029 to 2079.

Testimony of Eric Bell

- 3-8: Page 19 of Mr. Bell’s testimony refers to the depreciation studies used to determine the useful remaining lives of utility assets, and notes these are updated as conditions warrant. Is a new depreciation study pending or already in draft? If one is not underway, when is that anticipated? Please provide a copy of any pending or draft depreciation studies that are available.
- 3-9: Please refer to Mr. Bell’s testimony on page 25. Are there regions within DESC’s service territory where the AMI saturation is already enough to enable enhanced demand response or peak clipping measures? If there are not any areas where the saturation is already sufficient, what year and region(s) are expected to first reach the needed level of AMI deployment?

Testimony of Therese Griffin

- 3-10: On page 7 Ms. Griffin indicates that more measures are expected to be cost effective once the July 2020 avoided cost update is available. Does Ms. Griffin anticipate that this will increase the program savings, or will it increase the number of cost-effective measures that are not included in the portfolio?
- 3-11: On page 9 Ms. Griffin notes that the expanded DSM program effectively doubled DESC's DSM program spending. Can Ms. Griffin explain why the anticipated DSM program spending declines steadily from 2022 to 2029?
- 3-12: Please refer to Ms. Griffin's testimony on page 10. Please provide estimates of the annual savings as a percent of sales without netting out the opt-out customers. Please do this for the medium, high and SBA DSM scenarios.
- 3-13: Please refer to Ms. Griffin's testimony on page 11. For each of the major measure categories (heat pumps, CAC, water heaters and duct work improvement/replacement), please provide an estimate of the average market share for efficient equipment supported by the program initiatives over the 9-year period.

For example, if 20,000 efficient heat pumps have been supported through the program over 9 years, what share of the of total sales does this represent. If the total population is 550,000 residential customers and the average measure life for a heating system replacement is 15 years, then the annual market turnover would be roughly 36,600, and the total turnover over 9 years would be 329,000 units –

and the 20,000 high efficiency units supported by the program would represent approximately a 6% market share.

- 3-14: Please refer to Ms. Griffin's testimony on page 19. With reference to 28,000 improvements, please provide the estimated market share for each of the major program components (heat pumps, CAC, water heaters, and duct improvement replacement).

For example, if 10,000 efficient heat pumps are expected to be supported through the program in the coming five years, and if the total population is 550,000 residential customers, and the average measure life for a heating system replacement is 15 years, then the annual market turnover would be roughly 36,600, and the total turnover in the coming five years would be 183,000 units – and the 10,000 high efficiency units supported by the program would be approximately a 5.5% market share.

- 3-15: Please refer to Ms. Griffin's testimony on page 25. Why is the level of demand savings modeled as being the same value of 43 MW for both the medium and high DSM levels? Doesn't an increased level of DSM savings lead to a higher demand impact?

- 3-16: Please refer to Ms. Griffin's testimony on page 26. At the end of her testimony Ms. Griffin states: "The 2020 IRP study properly considers these programs and *the low savings* they represent to constitute a proper basis measuring the

sensitivity of IRP to future energy efficiency and demand reduction impacts.”
(emphasis added).

Was the IRP modeling of DSM impacts based on the low savings as represented in the ICF MPS? Please verify that the expanded or high savings levels are also appropriate as a basis for measuring the sensitivity of the IRP to future energy efficiency and demand reduction impacts. If they are not, please explain why.

Testimony of James Neely

3-17: On page 11 of Mr. Neely’s testimony is the 1% of retail sales requirements in the high DSM case net of sales to opt out customer, or are sales to opt out customers included in the sales requirement?

3-18: Please explain why the high DSM case was not part of the scope for the DESC potential study? To be comprehensive shouldn’t a market potential study include a high savings case?

3-19: At the top of page 12 of Mr. Neely’s testimony he states that the high DSM case was not supported by any analysis that would support a DSM program at that level was cost effective, practical and achievable.

- a. Please confirm that roughly 30% of the measures that passed cost effectiveness screening conducted by ICF were not included in the portfolios that were screened.
- b. If the savings from these measures were included in the portfolio, would the savings equal or exceed the 1% annual savings represented by the high case?

- c. Please explain why analysis of the high case savings was not conducted, given that screening suggested there are higher levels of cost effective savings available.
- 3-20: Please provide the complete results for Table 4 on page 17 of Mr. Neely's testimony as a percent above the lowest value as opposed to rank order comparison. For example, if RP3 has 3% higher levelized NPV than RP 2 in the low DSM case it would be listed as 1.03 as opposed to its rank order of 2.
- 3-21: Please provide the complete results for Table 5 on page 18 of Mr. Neely's testimony as a percent above the lowest value as opposed to rank order comparison. For example, if RP5 has a 10% higher levelized NPV than RP 7 in the high gas, \$0 carbon scenario, it would be listed as 1.10 as opposed to its rank order of 6.
- 3-22: Please refer to page 7 of Mr. Neely's testimony and page 38 of the IRP. Is DESC aware of any other utilities that self-impose a "peaking reserve margin"? If so, which utilities?
- 3-23: Please explain how the "peaking reserve margin" as the term is used on page 38 of the IRP was applied to the modeling if it was "not used for deciding on permanent capacity resources"? What this requirement binding and if so, how?

Testimony of Joseph Lynch

- 3-24: On page 11 of Mr. Lynch states "this data clearly demonstrates there are more effective opportunities to conserve electricity in the summer than the winter."

Please explain why the historic trends based on DESC's earlier DSM portfolio prior to and post Great recession, when DSM savings and spending were much lower than in the current plan, is an accurate basis for making this conclusion. Is Mr. Lynch implying there are not enough cost effective winter peak savings available for the current portfolio to target, and that in a sense the DSM portfolio is "winter-peak" constrained?

- 3-25: On pages 15-17 Mr. Lynch discusses the electric vehicle forecast. Has DESC included any consideration of smart charging to reduce the potential peak impacts of increasing EV adoption? Is there a plan to support smart charging to reduce peak impacts in any of the current IRP resource plans?

Charles River Associates Review

- 3-26: Please provide the names and titles of the CRA staff who prepared CRA's review of DESC's 2020 IRP.
- 3-27: Please provide a list of IRPs that the CRA staff who prepared CRA's review of DESC's 2020 IRP have reviewed or prepared.
- 3-28: At page 10 of its review, CRA states, "PROSYM was a reasonable tool for the 2020 IRP, but future IRPs may consider incorporating another tool that allows for least cost optimization of capacity expansion."
- a. Explain why, in CRA's view, PROSYM was a reasonable tool for the 2020 IRP.

- b. What, if any, IRPs in the past five years have the CRA staff who prepared the DESC IRP report reviewed that were based on a production costing tool?
- c. What, if any, IRPs has CRA prepared in the past 5 years using a production costing tool?

3-29: At page 11 of its review, CRA states: “The capital and operating costs assumed by DESC for new generation supply were generally reasonable and consistent with assumptions from similar IRPs in the industry.”

- a. Provide the specific documents and source data that serve as the basis for this conclusion.
- b. Provide the specific page and line reference in the documents and data responsive to subpart (a) that support this contention.

3-30: At page 11 of its review, CRA states: “Unit performance assumptions for thermal, renewable, and storage resources were reasonable and consistent with assumptions from similar IRPs in the industry.”

- a. Provide the specific documents and source data that serve as the basis for this conclusion.
- b. Provide the specific page and line reference in the documents and data responsive to subpart (a) that support this contention.

3-31: At page 11 of its review CRA states: “DESC has demonstrated that the DSM resources identified in the 2019 Potential Study are included in the 2020 IRP portfolios and result in the appropriate amount of energy and peak savings.”

- a. Provide the specific documents and source data that serve as the basis for this conclusion.
- b. Provide the specific page and line reference in the documents and data responsive to subpart (a) that support this contention.

3-32: At page 12 of its review CRA states: “In general, CRA judged an assumption or approach to be reasonable when it was supported by recent third-party studies, publicly available market data, planning documents from nearby utilities, or CRA’s own industry experience.” Please provide copies of all “recent third-party studies, publicly available market data, [or] planning documents from nearby utilities” that CRA reviewed for purposes of its report.

IRP Modeling Tools

3-33: Please explain, in detail, what process Dominion will use to decide whether to migrate to PLEXOS for its next IRP.

3-34: If Dominion filed its next IRP using PLEXOS, how would it use the tool?

3-35: Is the most recent Dominion VA IRP based on modeling using only MT and ST Schedule or also LT Plan? And if LT Plan is used, does Dominion use load duration curves or hourly chronological sampling or some other time sampling methodology?

3-36: Does PROSYM dispatch to load or to a market price? And if it dispatches to a market price, was the same price used for all load and all generators? If not, why not?

STATE OF SOUTH CAROLINA
BEFORE THE PUBLIC SERVICE COMMISSION
DOCKET NO. 2019-226-E

In the Matter of:)

South Carolina Energy Freedom Act)

(House Bill 3659) Proceeding)

Related to S.C. Code Ann. Section)

58-37-40 and Integrated Resource)

Plans for Dominion Energy South)

Carolina, Incorporated)

CERTIFICATE OF SERVICE

I certify that the following persons have been served with one (1) copy of the Third Discovery Request for Production of Documents to Dominion Energy South Carolina, Inc. by electronic mail and/or U.S. First Class Mail at the addresses set forth below:

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June 12, 2020

/s/ Emily E. Selden